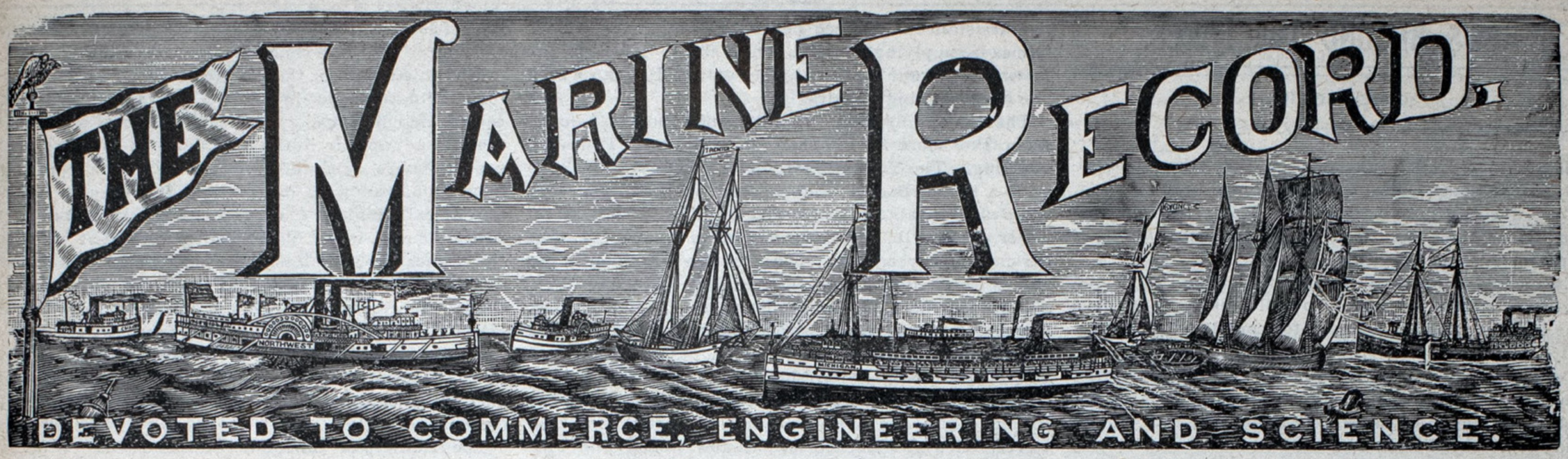

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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interest of Lake Carriers, and improve the character of the service rendered to the public.

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DEPARTMENTAL CHANGES.

A remarkable vacancy in the bureau of navigation, treasury department has been created through the enforced resignation of Thomas B. Sanders, deputy commissioner of navigation.

Mr. Sanders graduated from the army into the service of the treasury department in 1865. He proved to be competent and worked up to deputy commissioner of customs, which place he held for ten years. In 1884, when the bureau of navigation was established, Mr. Sanders was transferred there as deputy commissioner and organized the office, since which time he has been the working chief of the bureau, and has always been highly spoken of and specially commendnd for his technical knowledge and efficiency in the annual reports of the several commissioners of navigation.

Another head to fall within the past week was that of Maj. Horace L. Piper, assistant superintendent of the life-saving service. Four years ago he was promoted to be assistant superintendent of the life-saving service. He hesitated to take it, but finally was persuaded to do so on the ground that the office was regarded as a non-political one and that he would not be removed by a change of administration,

SAILING DIRECTIONS—HAY LAKE CHANNEL.

P. M. Church & Co., Sault Ste Marie, Mich., have published cards showing the new cut at Hay Lake and containing sailing directions as follows: "Ships bound up, after passing the dike will straighten up on the Neebish Island ranges, where a course leaving Six Mile Point slightly open on the starboard bow will carry to a point opposite a small house just above Nine Mile Point. From thence the ranges are visible and can be followed." The new channel is nearly eleven miles shorter than the old one and the majority of masters using it pronounce it much easier to navigate.

DEMURRAGE CLAIMS.

The owners of the steamer G. G. Hadley have brought an important test case to determine what demurrage can be collected from a dock company which delays handling cargoes because of strikes at the docks. The case is very important, as it affects almost every lake ship owner and directly involves the coal receiving company at Duluth and Superior. The Hadley arrived at the St. Paul & Western dock July 6 and was delayed twenty days because of the strike of the coal handlers with whom the St. Paul & Western, in common with all other coal companies at Duluth, refused to arbitrate.

WEATHER OBSERVATIONS.

The monthly report of the U. S. Weather Bureau for June states that observations have been received from the masters of 73 vessels navigating the Great Lakes. Among the reports contained in the review are extracts furnished by Capts. J. W. Morgan, of the steamer Australasia; R. Jollie, of the C. B. Lockwood; W. P. Robertson, Petoskey; Edward Mooney, Wawatam; Thomas Hackett, Volunteer; C. Petersen, of the Robert L. Fryer; R. J. Cowley, Roumania; John Lowe, Kaliyuga, George Holdridge, whaleback steam barge 132, and W. S. Hoag, whaleback steam barge 130.

Through the co-operation of the general superintendent of the life saving service and the secretary of the treasury, the Weather Bureau has also received monthly reports for the month of June from the keepers of 36 U. S. life saving stations on the Great Lakes.

ANOTHER ATLANTIC RECORD.

The remarkable performance of the Cunard line steamer Lucania, which arrived at Queenstown from New York on Friday last, has created considerable excitement in shipping circles, and is a matter of public comment.

The Lucania's day's runs were 447, 512, 494, 514, 506 and 337, making a total of 2,810 knots, her average speed being 21.84 knots. A singular feature of the trip is the fact that the Lucania's records for both the eastward and westward voyages are identically the same, namely, 5 days, 8 hours and 38 minutes; but, on the present eastward trip she covered a distance of twenty-three miles more than she did on her record-breaking trip last month.

The Lucania, by her present performance, firmly establishes her position as "Queen of the Sea," having crossed the ocean in both directions in less time than any other steamer. She holds the highest average hourly speed record, 21.89 knots, made in June last, and her 560 knots covered in one day in October, 1893, is still the record for the longest day's run. The probabilities are that there will be no more record breaking this year, as September gales are about due, the sun crossing the equator on the 23rd.

THE NEW TARIFF.

Certain clauses in the new tariff affecting shipbuilding, engineering and the equipment of vessels are as follows:

"Whenever any vessel laden with merchandise in whole or in part subject to duty has sunk in any river, harbor, bay or waters subject to the jurisdiction of the United States, and within its limits, for the period of two years, and is abandoned by the owner thereof, any person who shall raise such vessel shall be permitted to bring any merchandise recovered therefrom into the port nearest to the place where such vessel was so raised free from the payment of any duty thereupon, but under such regulations as the secretary of the treasury may prescribe.

"All material of foreign production which may be necessary for the construction of vessels built in the United States for foreign account and ownership or for the purpose of being employed in the foreign trade, including the trade between the Atlantic and Pacific ports of the United States, and all such materials necessary for the building of their machinery, and all articles necessary for their outfit and equipment, after the passage of this act, may be imported in bond under such regulations as the secretary of the treasury may prescribe; and upon proof that such materials have been used for such purposes no duty shall be paid thereon. But vessels receiving the benefit of this section shall not be allowed to engage in the coastwise trade of the United States more than two months in any one year except upon the payment to the United States of the duties of which a rebate is herein allowed; Provided, that vessels built in the United States for foreign account and ownership shall not be allowed to engage in the coastwise trade of the United States.

"All articles of foreign production needed for the repair of American vessels engaged in foreign trade, including the trade between the Atlantic and Pacific ports of the United States, may be withdrawn from bonded warehouses free of duty, under such regulations as the secretary of the treasury may prescribe."

GRAIN ELEVATORS COMBINE.

The competition between the stationary elevator combination and the floating elevators at Buffalo came to an end on Monday, and charges for transporting grain from lake vessels to canal boats was advanced from ⅛ to ⅞ of a cent. This includes ten days' storage, whether desired by shippers or not. In other words, the Buffalo elevator monopoly is back just where it was before the war on the floaters began last spring. Advices to Chicago shippers do not indicate on what terms the floating elevators were taken into the combination. The immediate effect of the advance in transfer charges was to temporarily stop shipments by way of the canal, but it is expected that the general shipments will soon resume again.

NEWS AROUND THE LAKES.

CHICAGO, ILL.

Special Correspondence to The Marine Record.

The L. M. & L. S. Transportation Co's steamer Manitou went to South Chicago Sunday morning to lay up.

Capt. Jas. S. Dunham and L. E. Cooley left Chicago Sunday to attend the Deep Waterways convention at Toronto, Ont., as delegates.

Carr & Blair chartered the steamer Langell Boys and consort Comstock for wheat to Milwaukee at ¾ of a cent free out, steamer Lindsay for corn to Port Huron at 1¼ cents.

Capt. Dunham's schooner James G. Blaine has received some new keel fore and aft and some new plank on her bottom at the Milwaukee Dry Dock Co., and will be ready to go out of dock Thursday.

The schooner Jennie Mullen, of this port, went ashore Saturday morning one mile south-west of Charlevoix. Her crew reached the shore in safety.

At Miller Brothers' ship yard the steamer Iron Age was in dock for repairs to shoe and rudder stock, schooner Mars for bottom calking, tug Mentor to have a leak stopped, canal steamer Imperial for repairs to damage done by the steamer Wyoming.

The tug companies at this port have settled their disputes and Capt. Ed. Van Dalson is again acting as referee of the lines. The tug boats have ceased running down the lake for tows and are waiting their turns at the breakwater.

J. J. Rardon & Co. chartered the steamer R. P. Ranney for wheat to Buffalo at 1½ cents, barge Sandusky clipped oats to Buffalo at 1¼ cents, steamer Yakima corn to Buffalo at 1⅜ cents, schooner F. A. Georger corn to Buffalo at 1⅜ cents.

Palmer, Cook & Calbick chartered the steamer New Orleans for wheat to Buffalo at 1⅜ cents, the steamer Toltec for wheat to Buffalo at 1⅜ cents; barge Miztec for oats to Buffalo at 1⅛ cents; steamer W. P. Ketcham, for wheat to Buffalo at 1⅜ cents; barge George B. Owen, for oats to Buffalo at 1⅛ cents.

Capt. John Prendiville chartered the steamer D. M. Wilson and consort Manitowoc for salt from Buffalo to South Chicago at 55 cents per ton, steamer Brittanic for steel billets from South Chicago to Buffalo at 50 cents per gross ton free of handling, schooner Sunrise for salt from Bay City to South Chicago at 8½ cents per barrel free, the steamer Norwalk corn to Buffalo at 1¼ cents.

J. G. Keith & Co. chartered the steamer E. A. Shores Jr. for wheat to Port Huron at 1½ cents, steamer Iron Chief and consort Iron Cliff for corn to Buffalo at 1¼ cents, steamer Sachem, South Chicago to Port Huron at 1¼ cents, schooners George Sturges and Mary D. Ayer for corn, Chicago to Port Huron at 1⅛ cents.

Elphicke & Co. chartered the steamer Iron Age and consort Iron City for wheat to Buffalo at 1½ cents, schooner F. W. Gifford wheat to Port Huron at 1½ cents, steamer J. J. Hill wheat to Milwaukee ¾ of a cent free in and out, steamer John Owen wheat to Buffalo at 1½ cents, schooner C. P. Minch corn to Midland at 1¼ cents, steamers Argonaut and Josephine wheat to Kingston at 2¾ cents, schooner Thomas L. Parker corn to Oswego at 2⅝ cents.

The tug Arthur Jones was in dock Tuesday having a new propeller wheel, patented by H. A. Harsha of Chicago, put on her to test its merits for speed. The Jones made a run from Chicago piers to Grosse Point with her old wheel, and will make another run over the same distance with the new wheel to ascertain the efficiency of the new wheel.

The steamer Robert Mills, which was beached at Wangoschance, after being in collision with the steamer H. J. Jewett, arrived here Friday with coal from Buffalo, and is being discharged at the O. S. Richardson Fueling Co's Market street dock. She has a canvas patch on her bow about 35 feet from the stem, and ten feet from the rail, 18 feet long and 10 feet wide. She will be unloaded Thursday and will go into dock for a survey and repairs.

The steamer Puritan when about four miles off Chicago Friday morning bound for St. Joseph and Benton Harbor, with passengers and freight, broke her inboard shaft and became disabled. The tug Alpena, which was out in the lake with some dump scows went to her assistance and towed her back to Chicago. C. F. Elmes is supplying her with a new shaft. The steamer Lawrence is running in the place of the Puritan whilst she is undergoing repairs.

The Chicago fireboat Yosemite sank about 1½ miles from the shore of 55th street early last Thursday morning. The Yosemite left here Wednesday night to go to a fire at Beck's lumber yard at South Chicago, when she was about 1½ miles south of the 68th street water works crib, and about five miles out in the lake her crew discovered that she was leaking badly, her pumps were put to work, but the water gained on them and put out the fires, and she became entirely disabled. Her crew kept at work with buckets bailing out the water, and Pilot Nolan improvised her awning for a sail and tried to make for the shore, the wind being from the southeast, but there being no means of steering her without steam, she drifted around with the wind and waves. Her crew burned torches and waste, and continued bailing until midnight, when the life saving crew from Jackson Park arrived on the scene, the Yosemite being then off 63rd street. The crew of the Yosemite made some buoys out of life preservers and fastened them to the hull with ropes so that she could be located after foundering, They stayed by her as long as they considered it safe, and then took to the life boat, the boat being overloaded with her ten extra passengers capsized before they reached the shore, but happily all got on board again and got safe ashore Thursday morning. The Yosemite must have kept afloat some time after her crew left her as she was located by her buoys sunk off 55th street in 32 feet of water. Capt. Nolan says he cannot account for her leaking, and denies emphatically that she struck Hyde Park reef as he was running her on a course well outside of the reef. The Independent tug line have contracted to raise the Yosemite for $4,000. They have employed the American Salvage Co. to do the work, and air bags have been placed on board which are to be inflated, and the boat raised as soon as the weather permits.

Capt. Joseph C. Perrett, who died at his home No. 698 Adams street, Chicago, Sept. 10th, was buried Friday afternoon at Rose Hill cemetery under the auspices of Cleveland lodge A. F. and A. M., Chicago Commandery, Knight Templars of which he was a member. Many of his marine friends were present at the funeral.

The grain movement out of Chicago this week has been the lightest for several weeks and it was only owing to the advance in iron ore and coal freights that grain rates did not drop off a point. Many vesselmen are hoping to see a $1 rate on iron ore from the head of Lake Superior in September. Shipments for the week were: Flour, 9,208,066; 70,505 sacks; wheat, 285,694 bushels; corn, 997,225 bushels; oats, 429.165 bushels.

Capt. James Reid, of Bay City, has succeeded in raising the machinery and boiler of the steamer F. W. Wheeler, which went to pieces north of Michigan City last December.

WILLIAMS.

BUFFALO, N. Y.

Special Correspondence to The Marine Record.

The straightback steamer Mahoning has undergone a large repair job in Mills Dry Dock, fourteen plates having been taken off the bottom.

The steel steamer Northern King, Capt. Frank Welcome, docked in the Union Dry Dock for examination, and after receiving temporary repairs to her bottom proceeded on her route. The King will be resurveyed and be given permanent repairs at the close of navigation. It was rumored some time ago that Capt. Welcome would not sail in the Northern Line again, but he has charge of the Northern King all right.

The license of Capt. Lanigan, of the excursion steamer Riverside, was suspended on Tuesday by the local steamboat inspectors for sixty days, and Capt. Lutz, of the Silver Spray, for thirty days for getting into a collision at the International bridge several days ago. The inspectors found that the Riverside acted carelessly, and that the Silver Spray did not blow her whistle in attempting to pass the other boat going in the same direction.

The passenger steamer North West left here on Tuesday on what is reported as her last trip for the season. The record is given as sixteen round trips, covering 35,000 miles and carrying 8,300 passengers. Allowing that each person was worth to the boat the conservative sum of $30, this would total nearly a quarter of a million dollars for the short time the boat has been at work.

Coal shipments for the past week are nominally 84,150 tons. This apparent increase is not real, as the week's report includes considerable coal for some weeks back that did not appear in the clearances at the time. The custom house rule allowing vessels to clear through from Tonawanda to destination, and then to make a port of call and load coal here without any report at the custom house, would make the government statistics mere guess work unless these cargoes were added in, and it is not always possible to obtain particulars of these side clearances. This is a feature that, for the sake of the port statistics and the general good of lake commerce, ought to be taken in hand by the secretary of the treasury. No vessel should be allowed to leave port with a cargo without taking out a due and proper clearance.

The trial trip of the new revenue cutter to be stationed at Chicago and for harbor work at that port exclusively, will have her trial trip in a few days. She is receiving the finishing touches in the David Bell shipyard. She is to be named the Calumet, and is a steel boat without masts, as she will be used mainly in harbor service. Her length over all is 94 feet 6 inches, length on water line 87 feet, with corresponding beam. She will be driven by compound engines of 400 horse power, calculated to give her a speed of fourteen knots an hour. The engines have been built from designs furnished by the navy department. The high pressure cylinder has a diameter of 18.5 inches and the low pressure cylinder one of 26 inches. Her four-bladed propeller will be 8 feet in diameter, with a pitch of 12 feet. Her boilers are of the same type as those supplied to the barbette coast defense vessel Monterey, of the navy, known as the Ward water tube boiler, the same type being also fitted in the new Detroit River passenger steamer Unique. The Calumet will have a mean draught of 8 feet, drawing 6 feet forward and 10 aft. On the upper deck is a deck-house 64 feet 10 inches long by 14 feet. The pilot-house is on top of the deck-house and from it the cutter will be steered by hand, as no plans were made for steam-steering apparatus. As the cutter is designed to cruise in both fresh and salt water, all her fittings are brass.

DETROIT, MICH.

Special Correspondence to The Marine Record.

The Pioneer went into dock here for a new wheel, on her last trip up.

A charter was placed here a day or two ago at $2 on lumber from the head of Lake Superior to Chicago.

The steambarge Houghton was docked this week in the Springwells dry dock, of the Detroit Dry Dock Co., for repairs.

The Greyhound has finished her season's work and gone into winter quarters, her place being taken by the Idlewild, which has been withdrawn from the river route.

On Saturday the barge Amboy, which was lying in the river lightering cargo, was libeled in the sum of $2,500 by the owners of the barge Sweepstakes, for damage done to the latter vessel in a collision above Belle Isle a week ago. The Amboy has been bonded and released from the libel.

Frank E. Kirby, representing the Detroit & Cleveland Steam Navigatiou Co., owners, and Thomas Daly, for the English Lloyds, who held the insurance, on Saturday surveyed the steamer City of the Straits, which was damaged in collision with the schooner Emma C. Hutchinson at Cleveland several days ago. The loss will amount to $3,500 or $4,000.

Quite a large circle of masters will be sorry to learn of the serious malady which has attacked Capt. Frazier, while at Ashland, this week. On medical examination it was found that he was suffering from an internal ulcer, and though resting easily at the hospital on Tuesday, his case is considered a very critical one. A new master has been sent on from this port to relieve Capt. Frazier of his command.

A special from Washington on Tuesday states that the president has again nominated J. H. Galway to be the supervising inspector of steam vessels for the eighth district. Galway was nominated several months ago, but his confirmation was opposed by the Lake Carriers' Association, the charge being that he is a dangerous labor agitator, and the senate adjourned without taking

action. Galway will now take charge pending the action of the senate next winter.

Mr. Martel, an old marine engineer, died at Merrill, Mich., Monday. Mr. Martel was prominently known in marine circles, having been a marine engineer for the past thirty-five years. He was chief of the John Pridgeon, Jr., of Detroit, for ten years during her palmiest days, when she was credited with being the best boat on the lakes. He was also employed by the government as an engineer on the revenue cutter Michigan and during the war as a mill engineer in getting out government supplies.

DULUTH, MINN.

Special Correspondence to The Marine Record.

The recent forest fires, and the consequent destruction of the traffic connections of the Eastern Minnesota road, between this city and Hinckley, has resulted seriously to the grain receiving interests of Duluth and Superior. The burning of the Kettle River bridge occurred just at the first height of the wheat shipping season, and it has cut off all receipts of grain from the road which usually carries more wheat into this city than all others combined. The Great Northern, of which the Eastern is the Duluth end, has a direct line into Minneapolis, while it cannot reach this city except by traffic arrangement over a rival line. This, while it is willing to suffer for the passenger and merchandise traffic, it is not able to stand for its wheat and flour trade, and as a consequence the wheat that should come to this city is diverted to Minneapolis. That this is no small matter can be seen from the figures of receipts at Duluth and Minneapolis for Monday last. At Duluth the cars of wheat received were less than 300, while in Minneapolis they were almost 800. Judging from the records of previous seasons Duluth should have received for the day anywhere from 700 to 900 carloads. The bridge at Kettle River is being completed as fast as possible, but it will be several days yet, at the best before the tremendous structure can be ready for business. The result is the grain receipts for the year at Duluth will show quite a little falling off, while those of Minneapolis will be correspondingly increased. The damage could not have occurred at a more unfavorable time. It will have a marked effect in decreasing the quantity of grain that will be shipped east by lake in bulk. The mills at Duluth and Superior are using so much of the receipts and are offering such inducements that the shipping companies can count only on what wheat is not wanted here.

The wheat decrease for the past week was 246,000 bushels, and the stock in store is now 2,395,000 bushels. It is a surprising thing to show a decrease at this season of the year.

Osborne & Co. the submarine pumping contractors some time ago bought between 500 and 1,000 tons of the Lehigh Coal Co. coal that fell into the bay last fall, paying $1 a ton. They raised, cleaned and sold at $5 a ton all that they could get.

The Northwestern Coal Railway Co. is rushing work on its new dock with a force of 200 men. It is hoped to have part of the dock in readiness for receiving next week, and quite a fleet of vessels will be on the way before the close of that week. Some very large shipments of machinery have lately been received at the dock. The work at the Lehigh Valley Coal Co's dock at West Superior is going on as fast as men can push it, and Manager Rhodes expects to have a little coal on the dock this fall. At the Pennsylvania & Ohio dock, Duluth, the 300 feet extension is well under way, and will be finished shortly. Considerable coal has already been received on the new 300 feet portion of the Ohio Coal Co's dock in Duluth.

Nobody seems quite so warm over the recent advance in freight rates to the east as do the lumbermen, especially those who have sold stuff ahead, and have been unable to get it all out on the old rates. They reason, and with good ground, that the vesselmen may not have been earning much money, but they were making as much as the lumbermen, and the latter are so fixed that they cannot pay any more for getting their product to the east. They would rather shut up shop. They have undoubtedly been selling their stuff at as low a price as possible, and they cannot afford to pay even a small added charge in the increased freight. Sales of lumber have been small for the week or two past, partly doubtless, because of the unsettled state of the tonnage market. It will take very little advance in rates to stop all sales and shipments to the east, and the consequent closing at an early day of most of the mills at this city, and in its vicinity. As yet, however, there has been more cry than hurt in the matter, so far as shipping to Lake Erie is concerned the advance has been from 13 to 14 shillings—only 12½ cents.

Within the past two or three weeks large quantities of coal have been received here and at Two Harbors, where the Minnesota Iron Co. handles its mine and railroad supplies, that was loaded at Lake Erie by the new McMyler car dumping machine. Interest has been taken in the condition of this coal, and it has been discharged out of the vessels in most excellent shape, and with the percentage of breakage reduced. There has been some talk of trying this machine in loading ore for the down trip, but the dispatch and cheapness of handling ore cargoes and the further fact that breakage cuts no figure, will cause ore to be handled in the old way for a good many years to come.

Receipts of coal at the head of the lakes are somewhat less than in August, but are still very large. There have come in since Sept. 1 about 275,000 tons, anthracite and bituminous, and the movement is showing some signs of slacking temporarily, the 50 cent vessel rate from Lake Erie being more than coal people are willing to stand if they can help it. Actual receipts on both sides the bay, by actual and exact figures, are as follows up to Sept. 1.

	Anthracite.	Bituminous.
On hand May 1, 1894	142,392	
May receipts	71,083	11,286
June receipts	82,653	
July receipts	74,689	83,451
August receipts	48,465	433,171
Total	419,282	527,908

Total actual receipts, therefore, for the year to this date have been, deducting the stocks on hand at the opening of the season and adding 275,000 for received in September, 1,079,900 tons. It has been freely stated that receipts for the entire year would be up to those of last season, less what was in stock at the opening of navigation this spring. This is probably not correct, for best posted coal men here do not expect the ports will handle over 1,250,000 tons of soft coal and 450,000 or 500,000 tons of hard.

CLEVELAND. O.

Special Correspondence to The Marine Record.

Hon. F. W. Wheeler, the Bay City shipbuilder, and J. J. H. Brown, vessel broker, of Buffalo, were in the city on Monday.

Mr. W. D. Rees, manager of the Republic Iron Co., is again at business much improved in health after his recent vacation.

Mr. M. A. Bradley, Harvey D. Goulder, Esq., and Capt. C. E. Benham are attending the Toronto deep waterways convention this week.

The new river custom house, built near the site of the old rookery, is now occupied by the officials, although the interior work is not completed.

The Manola, Capt. Bassett, has completed repairs, and the schooner Alice B. Norris with other small tonnage has been taken into the Cleveland Dry Dock for calking.

The large new steamer I. W. Nicholas left port on her maiden trip on Monday afternoon. She loaded in Erie for Duluth. Capt. William Gerlach, formerly of the Onoko, is her master, being also part owner of the big boat.

The steamer Yuma came up from Ashtabula on Tuesday, after discharging her ore cargo. She was then placed in the Ship Owners' Dry Dock for survey and repair of the damage sustained by stranding in the Sault a few days ago.

docks are within a few hours' steaming distance of each other. The managers of the S. S. Curry are handling that boat to the best advantage and they are not at this time burning up her interior fittings to get her over the ground either.

Capt. Dan McLeod, manager of Inland Lloyds, after inspecting the damage on the steel steamer Yuma on Tuesday afternoon, left in the evening for Milwaukee, where he has been called on another survey, after which he will at once return home.

Ore receipts at Cleveland for the first half of September were 136,587 gross tons, divided as follows: From Duluth, 26,628 tons; Ashland, 28,154; Marquette, 37,884; Two Harbors, 29,511; Escanaba, 14,414. Coal shipments for the same period, according to custom house figures, were 62,134 net tons, 22887 tons going to Lake Superior, 22'974 to Lake Michigan and 16,272 elsewhere.

Mr. Henry F. Roesser, late manager of the Stillman, is now manager of the Hotel Netherland, Fifth avenue, New York. This magnificent new house is conducted on the European and American plan and Mr. Roesser sends greeting to all of his Cleveland friends, many of whom he hopes to welcome at the Hotel Netherland in the near future.

The work of fitting the machinery in the new steel steamer recently launched by the Globe Iron Works Co. is progressing rapidly. On the day of the launch Capt. Murch did not deny his appointment to the new boat as master, and, as she has been chartered by the Northern Line, it is not unlikely that this well known shipmaster will take charge of her.

The steamship North West arrived at this port on Monday evening half an hour ahead of her new schedule time. In spite of the cooler weather, the passenger business is brisk, and the big boat is still earning lots of money. She arrived here on her up trip, and her last for the season on Wednesday morning with a good passenger list booked from Detroit.

Capt. C. E. Benham having just completed a Lake Superior tour speaks in high terms of the Hay Lake channel, and is pleased to assert that Gen. O. M. Poe, corps of engineers, United States army, in charge of improvements in the northwest division and under whose superintendence this work has been carried out, has never received half the credit and praise due to him for the high engineering skill displayed in the work of the new cut. Capt. Benham says that the Hay Lake channel is a masterpiece in river improvements.

Chicago is sending out some wonderful marine items this season. The special from that port a day or two ago about the S. S. Curry leaving a Lake Superior port carrying a record breaking cargo, but so scant of fuel that she had to burn up even her hatches to get to the "Soo," is pronounced a canard by her owners here, Messrs. Hawgood & Avery. Every pound of extra weight wants to be thrown out of a cargo boat, and it would be folly to carry a lot of extra fuel when fueling

The local inspectors of steamboats at this port are always alive to their duties and endeavor to carry out the intent of the law on all occasions. The recent suspension and cancellation of pilots and engineers' licenses where laxity and unfaithfulness to duty had been clearly proved is a step in the right direction and will tend to support the rules governing the service, besides giving to careful officers a wholesome respect for the authority placed in the hands of the local inspectors.

AMPLITUDES.

The following approximate amplitudes of the Sun's rising will be given each week in this column during the season of navigation: A second bearing of the Sun may be taken at sunset by reversing the bearings to read west instead of east, as, for example, E. by N. ½ N. for a sunrise bearing would read W. by N. ½ N. for a sunset, or E. 4° N. to W. 4° N.

LAKE ERIE AND S. END LAKE MICHIGAN LAT. 42° N.

Sunrise.	Bearing (degrees.)	Bearing (points.)
Sept. 22	E. True.	E. True.
Sept. 25	E. 1° S.	E. ⅛ S.

LAKE ONTARIO, S. END HURON AND CENTER LAKE MICHIGAN LAT. 44° N.

Sunrise.	Bearing (degrees.)	Bearing (points.)
Sept. 22	E. True.	E. True.
Sept. 25	E. 1° S.	E. ⅛ S.

N. END LAKES HURON AND MICHIGAN, LAT. 46° N.

Sunrise.	Bearing (degrees.)	Bearing (points.)
Sept. 22	E. True.	E. True.
Sept. 25	E. 1° S.	E. ⅛ S.

LAKE SUPERIOR LAT. 48° N.

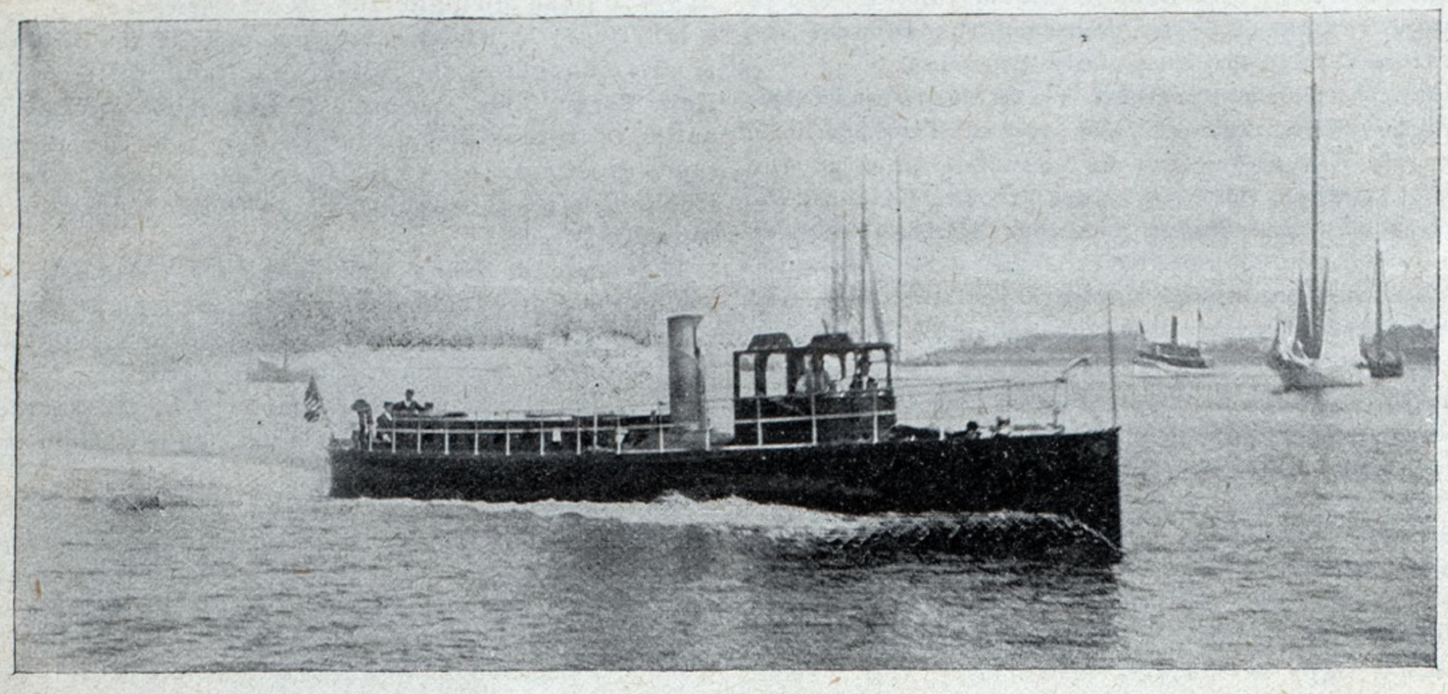
Sunrise.	Bearing (degrees.)	Bearing (points.)
Sept. 22	E. True.	E. True.
Sept. 25	E. 2° S.	E. ⅛ S.

With a compass correct magnetic, the difference between the observed and true bearings will be the variation for the locality. If there is any deviation on the course the vessel is heading at the time of taking the bearing the result after the variation is applied will be the amount of deviation on that course.

THREE FASTEST STEAM YACHTS AFLOAT.

(ILLUSTRATED.)

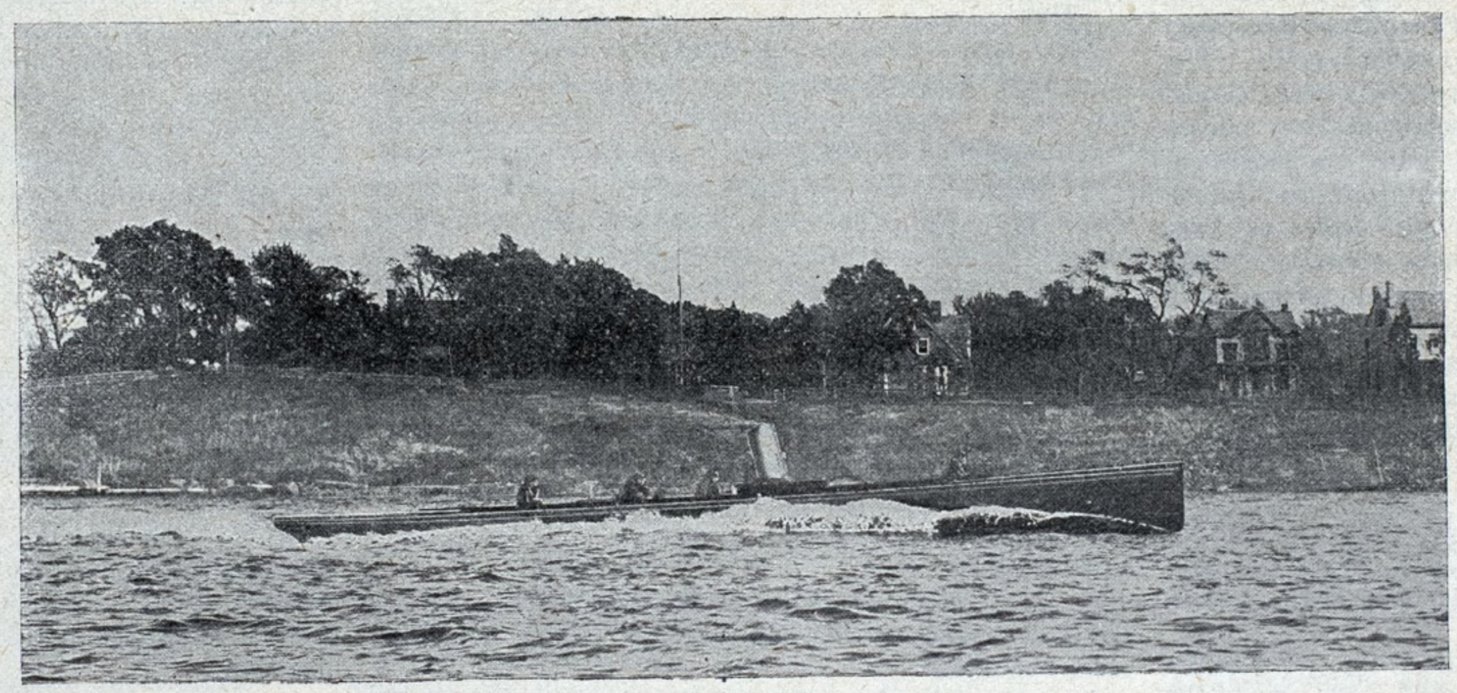
The cuts herewith shown are reproductions of instantaneous photographs taken while the boats were under full speed: The Feiseen was built for W. B. Cogswell, of Syracuse, N. Y., and was launched in the spring of 1893. After breaking the world's record for speed, she was sold to the Brazilian government and fitted up as a torpedo boat, in which service she is now employed. This boat has a record of 31.6 miles per hour, having covered a distance of 7¼ miles in 13 minutes and 45 seconds, against a slight tide. Her dimensions are: 85 feet long, 9 feet 8 inches beam and 3 feet 6 inches draught of water; the hull is of composite construction, the keelsons, part of the frames and bulkheads being of steel; the planking of the hull and deck is of polished mahogany. She has a flush deck, with trunk cabin and large, roomy pilot house also finished in polished mahogany; the smokestack, hand rail and deck fittings are of polished brass. The boat is divided into five water tight compartments. The machinery consists of one of the Mosher patent quadruple expansion engines, having cylinders 9½, 13½, 18 and 24 inches in diameter by 10 inches stroke, it having developed 600 horse-power when making about 600 revolutions per minute under a working pressure of 250 pounds per square inch. The boiler is of the Mosher patent safety water tube, marine type, with 1,200 square feet of heating surface and 33 square feet grate surface, and allowed a working pressure of 275 pounds per square inch.



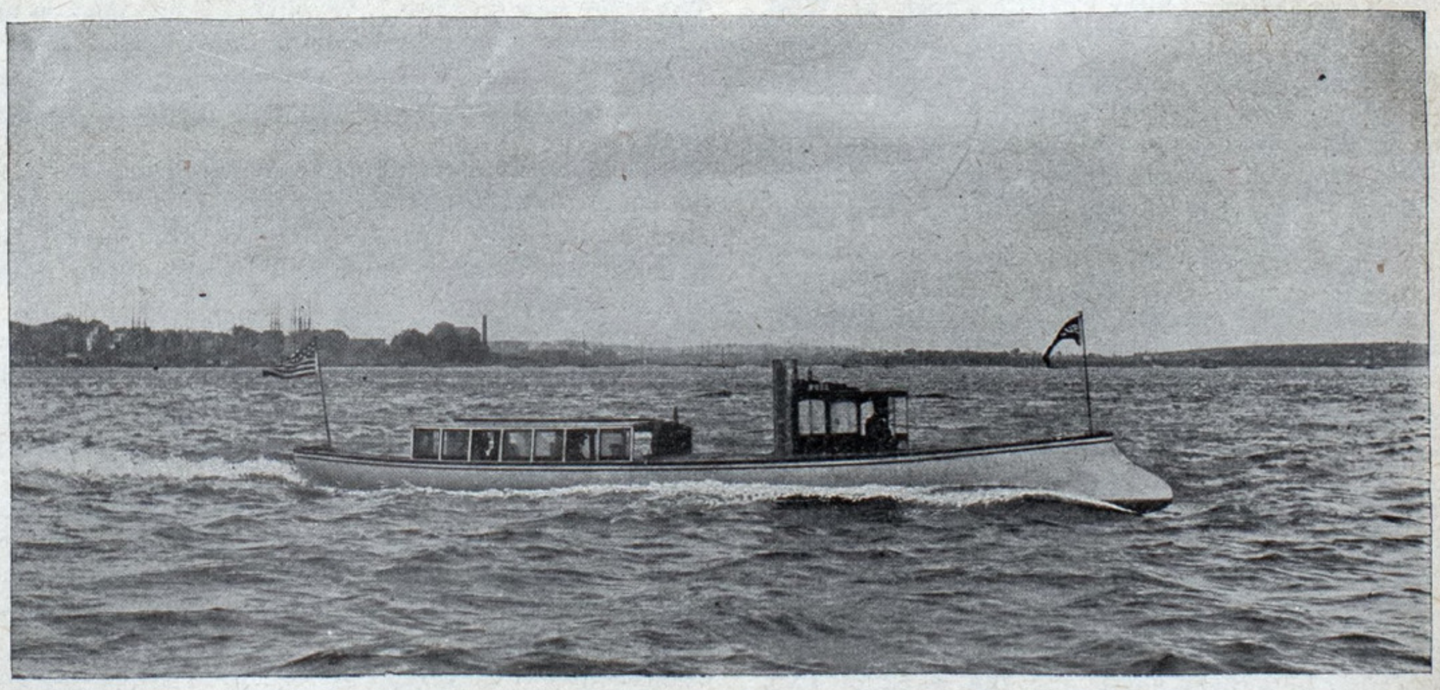
FEISEEN, SPEED 31.6 MILES PER HOUR.

The Norwood was launched in the spring of 1890, having been built for the late Norman L. Monroe, and is now owned by his widow, of Branchport, N. J. This boat is an open launch, 63 feet long, 7 feet 3 inches beam, and 4 feet draught of water. She has a cock pit forward and one aft, each 10 feet long. She is decked over for a distance of 12 feet forward and 10 feet aft. A short distance abaft the stem is a collision bulkhead, aft of which is an air-tight compartment 7 feet 9 inches long. There is also another air-tight compartment aft. These compartments have sufficient buoyancy to float the boat, even if the machinery space and cock pits are filled with water. The deck and hull planking and the entire interior woodwork is of polished mahogany. The smokestack, hand rails and deck fittings are of polished brass, giving the boat a neat and finished appearance. In a series of runs over the measured mile course of the Wannesquam Boat Club, on the Merrimac River, in slack water she developed a mean speed of 30 miles per hour, having covered the course during this trial at the rate of 30.5 miles per hour. The engine is of the triple expansion type, having cylinders 9, 14½ and 22 inches in diameter by 9 inches stroke, which has indicated 450 horse power when making about 560 revolutions per minute. The engine is provided with an inboard surface condenser, independent air and feed pumps and blower engines for forced draught. The boiler is of the Mosher type, with a working pressure of 275 pounds per square inch, having 800 square feet of heating surface and 24 square feet of grate surface.

The Yankee Doodle, originally known as the Buzz, was built in the winter of 1888-9 for C. D. Mosher's own use. She is now owned by McBride Bros., of Philadelphia, who state that after their purchase of the yacht they put the McBride & Fisher patent boiler in her, and altered her engines and put new cylinders on them, together with a new propeller wheel. She is a trunk cabin launch, 50 feet long, 6½ feet beam and 30 inches draught of water. The machinery and boilers are amidships. She is decked over flush with the rail, from the bow aft to the forward bulkhead of the cabin, and is provided with a roomy pilot house. This launch attained a speed of 29.6 miles per hour, which record was made during the race on July 4, 1892, on the Schuylkill River, in slack water, over a measured mile course, which was covered in 2 minutes 1 3-5 seconds. The engines consist of a pair of simple high pressure direct acting, each with cylinders 8 inches in diameter and 8 inches stroke, having indicated 194 horse power when making 722 revolutions per minute, with a steam pressure of 150 pounds per square inch. The boiler has 300 square feet of heating surface and 8 square feet of grate surface. We are indebted to the *American Shipbuilder*, New York, for cuts and descriptive matter of these yachts. For further information concerning high speed steam yachts we refer our readers to Chas. D. Mosher, whose address may be found in our advertising columns.



NORWOOD, SPEED 30.5 MILES PER HOUR.



YANKEE DOODLE, SPEED 29.6 MILES PER HOUR.

THE MICHIGAN NAVAL RESERVE.

Acting Secretary of the Navy McAdoo has decided to equip the Michigan naval militia for active service in boat and survey drill and inshore work. Accordingly he has sent the following letter to the adjutant general of the state:

"SIR:—Replying to your letter requesting that certain boats and arms may be forwarded to Commander C. C. Poe, commanding first division Michigan State Naval Brigade, I have to inform you that if in conformity with the act to promote the efficiency of the naval militia, approved August 3, 1894, if the governor of the State of Michigan will make written application to the secretary of the navy for temporary loan to the State of Michigan of three men-of-war cutters, a 3-inch breech-loading rifle and one 50-calibre gattling gun with field carriages and equipments, and forty cutlasses, belts and frogs, said boats and arms to be used only by the regularly organized naval militia of the state for the purposes of drill and instruction, such loan will be authorized by this department, provided that when the organization of the naval militia of the State of Michigan shall be abandoned, or when the interests of the naval service shall so require, such boats and guns, or other ships, apparel, etc., shall be immediately restored to the custody of the secretary of the navy. When the request as above stated is received from the governor of the State of Michigan, orders will be given to immediately ship the articles mentioned to the address indicatedby you."

The department is waiting to hear how soon the United States steamer Michigan will finish the survey at the mouth of the Detroit River, which is now being completed, and when that information is received the plans for the lake cruise of the Michigan naval militia will be perfected.

THE Canadian schooner J. H. Carter which is ashore at Mississanga Straits, Georgian Bay, has been abandoned as a total loss. She was owned by N. Dymont, of Picton, Ont., and was built in 1875.

LAKE CURRENTS.

Prof. Mark W. Harrington, chief of the U. S. Weather Bureau, made some highly interesting observations concerning the lake currents during his recent tour. He will incorporate his findings in a special report that will prove of great value to lake seamen, owners and underwriters. In a summary of the results of his investigation, it is said:

"The importance of these experiments, which were designed principally to determine the currents of the Great Lakes, is not appreciated by one who does not realize that the amount of freight tonnage carried annually to and from Detroit on the water is greater than that going through the port of Liverpool, which has always been considered the freight Mecca of the world. While the Weather Bureau was engaged in the preparation of a wreck chart two years ago for the Great Lakes, it was noticed that the floating timbers had a tendency to cluster in certain parts of the surface, suggesting the existence of unknown currents which might play a considerable part in wreckage. It was due to this obstruction that the experiments in current location originated.

"The velocities of these currents are anywhere from four to ninety-six miles per day, according to conditions. Although the general flow of each of the lakes usually has the same velocity, the speed is sometimes changed by the continuous blowing of winds in a certain direction, whereby the surface currents are enabled to affect the strata below and carry it along with them in their journey ahead of the breeze.

"One of the most surprising of these observations was made to determine the shore bottoms. Although the currents have been exciting the waters of the lake for ages, an examination of the sand formations off the coast showed them to be unaffected except in the case of Lake Michigan at Michigan City and Chicago. Lake Michigan's southern end is so formed that there is a strong current from the north on the western side and toward the north on the eastern. It is believed that in time the accumulation of sand at these two cities will gradually fill out the coast along this graceful bulb in the lake and form a pointed bay between them.

"Prof. Harrington gives it as his opinion that all the theories which suspect a subterannean river inlet to the Great Lakes are unfounded as are those striving to prove that their immense capacity is supplied by undiscovered connection with the dense region of smaller lakes adjacent to the northwest. The water which falls out of the St. Lawrence River, in his opinion, is collected from a long continuous drain on the whole central portion of the country, which supply can best be imagined when it is appreciated that the region known as the lake basin comprises, within an irregular circle, all the lakes, and having a diameter from north to south, about twice as wide as the greatest length of the lake territory itself.

"These experiments were only preliminary to the next chapter of the weather bureau's study of the Great Lakes, which has already been begun by Inspector Norman B. Conger. Still another chapter will be devoted to fogs, which are the cause of most of the wrecks, strandings and collisions on the lakes. Canada, it is ascertained, has gotten wind of the professor's recent studies, and is preparing to make an independent series of experiments in lake currents."

DEATH OF A LLOYD'S AGENT.

Mr. Henry McMillan, Lloyd's agent at New York for the past five years, died after a short illness of typhoid fever last week. Mr. McMillan was born in England in 1850, and early associated himself with shipping interests. He was for some time a member of the firm of Michael Cavan & Co., Barbadoes, who were Lloyd's agents at that port, and, owing to his efficiency at Barbadoes, he was five years ago made agent for Lloyd's at New York.

ERIE CANAL TRANSPORTATION.

The record of grain receipts at Buffalo and shipments by the Erie canal from the opening of navigation to the beginning of the present month, affords evidence of the important part that the canal is performing, despite its inadequate facilities. The grain receipts at Buffalo for the four months this year and for the same period of two preceding years have been as follows:

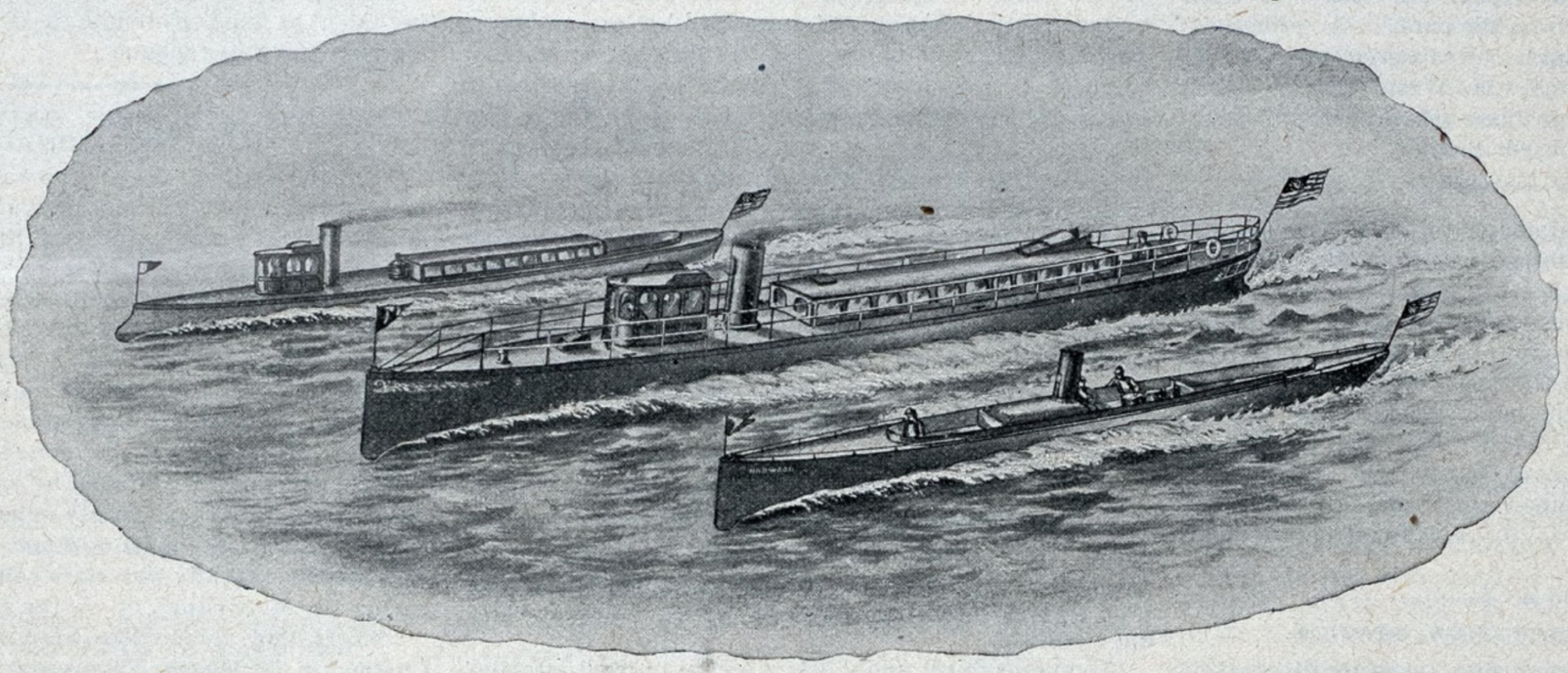
Bushels.	1894	1893	1892
Wheat	26,956,940	43,747,520	45,068,230
Corn	18,771,440	19,775,800	16,400,680
Oats	6,596,420	11,820,688	11,415,650
Barley	501,270	293,340	234,395
Rye	195,540	409,005	642,340
Total bushels	53,021,610	76,046,353	73,761,295

And the shipments by canal have been as follows:

Bushels.	1894	1893	1892
Wheat	18,526,136	22,712,119	11,171,164
Corn	7,081,381	3,586,422	1,012,545
Oats	2,573,745	262,839	3,379,963
Barley	57,403	59,419	87,163
Rye	77,424	177,963	40,380
Total bushels	28,316,089	26,789,762	15,691,216

Also, 93,249 bushels barley malt in 1894, 106,415 bushels in 1893, 75,919 bushels in 1892.

It will be seen that, despite the decrease of 20,000,000 bushels in receipts at Buffalo, the shipments by canal have been actually larger this year than last, when proportion of shipments by canal compared with those by rail was unusually great.



THE THREE FASTEST STEAM YACHTS IN THE WORLD—YANKEE DOODLE, FEISEEN AND NORWOOD.

NOTICE TO MARINERS.

Notice is hereby given that the Poverty Island Shoal 2nd class nun buoy reported adrift, has been replaced.

By order of the Light-House Board.

COMMANDER J. H. DAYTON, U. S. N.
Inspector 9th Light-House District.

INSURANCE RATES ADVANCE.

The Chicago Board of Marine Underwriters has advanced insurance rates on grain 10 cents per $100 to all points, taking effect September 15th. The new rates are: To Buffalo, 60 cents; Port Huron, 50 cents; Montreal, 85 cents.

BUFFALO COAL TRADE.

The following statistics of the coal trade of Buffalo have been furnished by Mr. William Thurstone, secretary of the Merchants' Exchange:

Railway receipts and shipments of coal are not reported by request. Receipts by lake thus far this season, none. Shipments of coal westward by lake for month of August 253,988 net tons, as compared with 252,945 tons in 1893 and 247,562 tons in 1892; for the season to September 1, 1,299,067 net tons as compared with 1,440,074 tons in 1893 and 1,420,347 tons in 1892. The receipts of coal by canal for the month of August, 11,102 net tons, as compared with 13,757 tons in 1893 and 6,145 tons in 1892; receipts for season up to September 1, 16,086 net tons, as compared with 39,429 tons in 1893 and 11,436 tons in 1892. The shipments by canal for month of August, 3,011 net tons, as compared with 2,285 tons in 1893 and 3,545 tons in 1892; shipments for season up to September 1, 5,413 net tons, as compared with 12,024 tons in 1893 and 18,764 tons in 1892. The aggregate shipments of coal by lake thus far this season show a decrease of 141,007 net tons, as compared with 1893, and a decrease of 121,280 net tons as compared with 1892. The rates of freights during the month of August from Buffalo were as follows to places named: 45@40 cents Chicago and Milwaukee; 50 cents to Racine and Green Bay; 30 cents to Duluth and Lake Superior ports; 25 cents to Toledo and Detroit, and 35 cents to Saginaw and Green Bay. A year since the rates for August were: 50@30 cents to Chicago; 45@30 cents to Milwaukee; 30@20 cents to Duluth and Lake Superior ports; 40@30 cents to Green Bay; 30 cents to Toledo; 30@25 cents to Detroit; 50 cents to Racine; 40 cents to Saginaw and 35@30 cents to Bay City. The distribution of the coal shipped thus far this season to Septembsr 1, was to the following places: 551,177 tons to Chicago, 320,244 tons to Milwaukee, 13,450 tons to Marquette, 18,480 tons to Manitowoc, 3,600 tons to Sault Ste. Marie, 950 tons to Alpena, 600 tons to Benton Harbor, 2,810 tons to Lake Linden, 107,989 tons to Duluth, 2,700 to Kenosha, 1,450 tons to Washburn, 600 tons to Sand Beech, 3,950 tons to Ashland, 109,304 tons to West Superior, 31,835 tons to Green Bay, 900 tons to Manistique, 1,300 tons to Kincardine, 1,150 tons to Ludington, 400 tons to St. Ignace, 1,400 tons to Gladstone, 6,526 tons to Detroit, 3,490 tons to Sheboygan, 2,190 tons to Cheboygan, 1,300 tons to Muskegon, 58,410 tons to Toledo, 13,600 tons to Bay City, 1,275 tons to Grand Haven, 650 tons to Owen Sound, 600 tons to Traverse City, 16,770 tons to Racine, 8,905 tons to Hancock, 1,300 tons to Houghton, 17,150 tons to miscellaneous ports not reported in detail, 12,605 tons to Saginaw, 5,066 tons to Ft. William, 1,650 tons to St. Clair, 700 tons to Sarnia, 8,590 tons to Port Huron, 1,407 tons to Windsor, 1,290 tons to Hamilton, and 650 tons to Michigan City. Total for the season, 1,299,067 net tons.

THE NEW TARIFFS.

The *Canadian Manufacturer* of September 7th contains the new Canadian tariff, which was ratified July 23rd, 1894, and the new United States tariff, which became law and went into force on August 28th. Both these important papers are copied from official documents—the Canadian obtained from the Dominion Minister of Finance at Ottawa—the American from the treasury department at Washington. No other trade journal, or any newspaper, either in Canada or the United States, has published the tariffs of the two countries in the same issue, and much credit is due the *Canadian Manufacturer* for its enterprise. Its issue of September 7 cannot but be of much value to any who may be interested in commercial transactions between the two countries.

YACHTS AND BOAT FITTINGS.

The Watertown Brass & Manufacturing Co., of Watertown, N. Y., are now carrying a large stock of the best class of fittings for steam and sail yachts. Besides the finest style of equipment in brass they manufacture the Baker patent stockless anchor and Bests' patent releasing anchor for light tonnage, the Radix patent folding center board, propeller wheels, and all gear, fittings and trimmings for yachts, boats and canoes.

THE MARINE RECORD

ESTABLISHED 1878.

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CLEVELAND, O., SEPTEMBER 20, 1894.

THE general verdict among vesselmen is that Gen. O. M. Poe is entitled to a large share of credit for carrying to a successful issue the new Hay Lake channel. It is now found, however, that the starboard bank bound up is washing away to a certain extent, and obstructions are already so dangerous as to call for stakes to mark the boulders washed out from the bank. A prominent and well versed captain says, "it is a great pity that the channel was not cut through the West Neebish, and it may have to be cut through there yet as without doubt the West Neebish is the proper channel."

EVIDENTLY the coal shipments to Lake Michigan has been attended to by the shippers during the months of low freights, for it is now learned that at the port of Milwaukee alone there has been an increase of shipments showing nearly 64,000 tons up to September 1, divided as follows: Anthracite, 440,479 tons; bituminous 212,909; total, 653,388 tons. For the same time last year the receipts were: Anthracite, 354,507 tons, and bituminous 235,388 tons, making a total of 589,980 tons. Lake Superior is not in as good a shape for soft coal and it will take lively shipping to stock up the northwest before snow, flies.

STEAMBOAT INSPECTION SERVICE.

And now the U. S. Supervising Inspector General of Steamboats James A. Dumont, comes to the front by circularizing his subordinates in charge of the lake dis-districts to the effect that their standing has been seriously reflected upon by a communication relative to passing signals being published in a Detroit daily paper from the pen of a Bay City lawyer.

It is singular that the chief is so dense as to require a continual system of prodding to keep him keyed up to even a soporific intelligence. Bless his dear old soul does he not know that the entire lake marine are desirous of formulating rules whereby vessels can get over the ground without ceaseless misunderstanding of signals and collisions, and that such a code may be presented to him this winter for endorsement and enforcement?

Talking about the non-observance of passing signals in clear weather, when the passing signal has been ruled out in thick weather seems a good a deal like straining at a gnat to swallow a camel. However, let us ask the chief of the U. S. Supervising Inspectors of Steamboats whether he can't advance the grade of examinations for candidates seeking honors in the merchant marine service or if it is his intention to keep below the lines of mediocrity in the requirements for masters' and pilots' licenses?

The Supervising Inspector General of the U. S. Steamboat Inspection Service ought to introduce a regularly progressive system of examinations for applicants seeking original and higher grade licenses, and thereby raise the standard of qualifications, calibre and esprit de corps of those engaged in the service of the United States mercantile marine.

It is universally known and generally commented upon that there is no maritime country in the world having a lower degree of qualifications necessary to secure an officers' license in the merchant service than the United States and much of our decadence in the shipping world is due to this very feature.

The charges against steamboat inspectors in the lake districts relative to the so-called gross neglect on the part of many masters and pilots of lake steamers in not answering passing signals should have been taken up at Washington and thoroughly inquired into, instead of which we find the incomparable chief unloading the burden on to the shoulders of local officials who have already enough to attend to and who dare not go out of their district, upon the pain of instant dismissal from the service, except for their regular annual vacation.

This last act and accusation of Chief Dumont against lake masters and pilots coupled with his recent wavering disposition relative to the question of whether engineers where officers or not under the rulings of the treasury department, will make the majority of licensed men almost think that a burlesque is being perpetrated upon them under the guise of governmental authority.

There is no system of government espionage over the wide waters of the world, every maritime nation has qualified men to carry out the laws, national or international, and be guided thereby, well knowing that to follow closely the letter of the law is the safest course to pursue. What then does the supervising inspector general of steamboats desire for the lakes? Perhaps weekly junketing parties composed of several steamboat inspection officials would stand a detail of patroling the lakes each week throughout the season of navigation so as to look out for any infringements or irregularities in the "rules of the road," as for instance, where a whistle was not tooted exactly to the second prescribed by law, or where vessels meeting end on did not always port, or when on boarding it was found that no difference existed or knowledge thereof between a compass, magnetic or true course or bearing, perhaps the discovery of these and a few other little peccadilloes might repay the steamboat inspection service for keeping a small steamer engaged cruising on the lakes throughout the season of navigation, might, we say, but it is rather doubtful if such a departure would receive the consent of the secretary of the treasury, however much the chief of the service might consider it advisable. There is little use, however, in telling men who are all their time on shore to look out for infringement of rules on vessels in mid-lake.

THE CLEVELAND HARBOR.

The Cleveland Chamber of Commerce under the presidency of Mr. Luther Allen, secretary and treasurer of the Globe Iron Works Co., got down to a working as distinct from a theoretical basis on harbor work at Tuesday's session.

The main subject under discussion at a well-attended meeting composed of the most influential citizens was on the necessity for extensive improvements to the harbor of Cleveland a subject which THE RECORD has urged time and again upon the notice of the river and harbor conservators of the port and now that the most energetic members of the Chamber of Commerce has taken up the question we hope that no dilatory movement, delays or postponements will be allowed to step in until there is a port at Cleveland, O., worthy of the name, trade, commerce and prestige of Ohio's chief city.

Cleveland is the pioneer port of the iron ore industry. She is also the lake center of iron and steel shipbuilding, besides having a large export trade in coal, all of which ought to place her in the front rank of lake ports in receipts and shipments. Such, however, is not the case, for minor ports adjacent to Cleveland are walking away with more and more of her trade each year, and unless increased facilities for entering the port, such as a better depth of water would guarantee and commodious docks for loading and discharging cargoes are formed, it is quite certain commerce will seek the easiest channels and give Cleveland the "go by."

The municipality ought to form a river and harbor board having clearly defined powers to facilitate shipping and commerce. Such a board would of necessity be under the jurisdiction of the director of public works, or rather would he exercise a careful supervision over its action and reports, yet so long as that office was filled by a man like the present incumbent the best interests of the port would be conserved, otherwise, special powers might be granted by the legislature to such a board and the rut of committee work under a less qualified director be thereby done away with, for it is a foregone conclusion that a city council committee on the harbor is a misnomer and a perfect nonentity in so far as the conservancy of the port is concerned. The traffic interests at all large seaports is placed in the hands of a separate body and not left to the mercy of a committee from a local institution or a few aldermen or councilmen; such a system has long been proved abortive and Cleveland with her port wardens, one-man harbor master, and city council committees but emphasizes the findings at large seaports years ago.

The office of director of public works in Cleveland is no sinecure, nor can the person holding that important appointive office attempt to do justice to the work of improving the horribly neglected harbor without the earnest assistance of a thoroughly competent board to advise and support him in all well considered improvements. Therefore, the task which the committee on navigation of the Chamber of Commerce has taken upon itself viz. to facilitate shipping and commerce by the improvement of the river and its approaches is one which calls for workers, energetic and well advised ones at that. In the resolutions drawn up by the committee and submitted to the Chamber for adoption we are sorry to see that no allusion has been made to the disgraceful spectacle at the entrance of Cleveland ycleped the west pier. A jetty of concrete blocks ought to be built to the westward of such an apology for a harbor boundary and the entire obstruction swept away forthwith; furthermore, in the construction of bridges, abutments covering as much space as a sunken three thousand ton vessel ought never in the future to be permitted to occupy the center of a narrow creek like the Cuyahoga when there is enough engineering talent at hand to obviate the necessity of having such a primitive "water spanner."

THE TORONTO DEEP WATERWAYS INTERNATIONAL CONVENTION.

The International deep waterways convention opened in Toronto, Ont., on Monday afternoon. Maps and plans of the great canals of the world hung on the walls of the council chamber, indicating the objects of the convention. Nearly 300 delegates reported from United States points along the lakes west of Buffalo.

E. V. Smalley and Col. Davidson, of Minnesota, responded to the address of welcome, and the latter said that they were in Toronto not to confer regarding the interests of nations, but concerning their own individual interests. Let them, he said, discuss questions before them dispassionately, whether they came to the conclusion that the most natural outlet from the upper lakes to the Atlantic was via a canal from Lake Superior to the Mississippi, or via the St. Lawrence River.

Officers and committees were appointed as follows: Chairman, J. Enock Thompson, Toronto; first vice-chairman, E. V. Smalley, Minn.; second vice-chairman, R. R. Dobell, Quebec; secretaries, J. H. Boyle, Toronto, and D. B. Smith, Toledo. Committee on business, James Suydan, St. Paul; R. C. Steele, Alderman Graham Dunn, Toronto; Capt. Dunham, Chicago; Chas. E. Wheeler, Cleveland. Committee on resolutions, L. R. Keck, A. P. McQuirk, L. E. Cooley, Chicago; O. A. Howland, Toronto; James Conmee, Ontario; Col. Davidson, St. Paul, and H. D. Goulder, Esq., Cleveland.

The only business of importance on the first day was a resolution submitted by Col. Seymour, Sault Ste. Marie, Mich., which was as follows:

"That it is the sense of this convention that the improvement of the navigation of the St. Lawrence River is imperatively demanded in the interests of the United States and Canada, and that a depth of water not less than twenty-one feet by canals or channels around or through its shallows should be secured at the joint expense of the two nations, conditional upon its navigation being made commercially free."

The committee instructed Col. Seymour to elaborate on the resolution and return it to the convention later in the session.

The convention resumed its deliberations on Tuesday E. V. Smalley, of St. Paul, presiding. "Who Shall Pay for the Work?" was the subject of a paper read by J. Enoch Thompson, of Toronto. The speaker quoted from blue books to show that the Western states had more to gain from the deepening of the canal than the Canadian provinces, and for that reason the United States should bear a proportion of the cost in accordance with the proportion of the advantage it would derive from the work. The best route to the ocean was through Canadian territory and an eminent engineer, Mr. Carthell, of Chicago, had estimated the cost of deepening by an all Canadian route at from $50,000,000 to $75,000,000 and a larger sum, the speaker urged, was not unreasonable.

Mr. Flower, of West Superior, said he had the assur-

ance of Vice President Shaughnessy, of the Canadian Pacific Railroad, that his great corporation would do all it could to advance the work the convention had in view.

O. A. Howland delivered an admirable address on the effect of the Washington treaty upon canal navigation. He outlined the circumstances leading up to the differential regulations adopted by the United States in connection with the Sault Ste Marie canal, from which he argued that there was considerable danger of friction that might lead to serious results. He favored the appointment of an international high court by the governments of the British Empire and the United States to which every dispute which might arise could be submitted, and the finding be accepted by both as final. Until there was some tribunal established, by the working of which the probability of war between the two nations would be no greater than between the different states of the Union, it would not be a wise proceeding to construct an international waterway under joint control.

L. E. Cooley, engineer of the sanitary canal, upon which Chicago is spending $25,000,000, spoke of the cost of canal construction. He quoted figures to show that in consequence of the economy of cost water transportation would never be supplanted by the railways. The route of a canal was to be determined largely by the amount of domestic traffic to be had, for this always determined the foreign shipment. There had never been a time when the Welland canal was not a better route to the ocean than the Erie canal, and there had never been a time when the Erie did not have five times as much traffic as the Welland. Looking at the matter from an American standpoint, they had to get into Lake Ontario, and either the Mohawk Valley route, or Lake Champlain, by the Hudson to New York, was the most acceptable. The Mohawk would cost $750,000 a mile, and was 180 miles long, so it was practically out of the question. The cost of deepening the St. Lawrence canals had been estimated at $27,000,000, and he thought that well within the mark. To reach the ocean from Lake Erie would involve an expenditure of $50,000,000—$27,000,000 for the St. Lawrence and $23,000,000 for a new canal to be built from the Niagara River to Lockport, thence to Lake Ontario. Mr. Cooley declared himself as favoring a 26-foot canal to the sea via the Lake Champlain route.

Papers were also read by Peter McIntyre and James Suydam, of St. Paul, Minn., dealing with "the economy of 20-foot canals" and "improved canals."

At the Wednesday session of the convention a permanent organization was formed with these officers: O. A. Howland, M. P. P., Toronto, president; L. E. Cooley, Chicago, one of the international vice-presidents; James Suydam, state president for Minnesota; Luther Allen, Cleveland, state president for Ohio; H. W. Seymour, state president for Michigan; Capt. J. S. Dunham, president for State of Illinois.

A scheme to so obstruct Niagara River as to give greater depth of water in Lake Erie and the shallows in Detroit River, was submitted in the form of a resolution and carried. It also favored the speedy completion of a 26-foot canal on either side of the boundary line at the Soo.

The committee on resolutions reported the following, which was unanimously endorsed by the convention:

WHEREAS, This convention is assembled for the purpose of promoting the union of the lakes and the high seas by waterways of the greatest practicable capacity and usefulness, and recognizing the supreme utility of such a waterway development, therefore

Resolved, First—That the depth of all channels through the lakes and their seaboard connections be not less than 21 feet, and that all permanent structures be designed on a basis of not less than 26 feet, so to be obtained as may be demanded by the future necessities of commerce.

Second—That this conventisn recognize the utility of the natural route to the sea by the St. Lawrence River, and is also impressed with the commercial necessity of the route reaching the American seaboard by the Hudson River.

Third—That we recommend that the governments of Canada and the United States appoint a joint committee for the purpose of determining the questions of mutual cost and control to the end that they may co-operate on all matters necessarily international in character.

Fourth—That we accordingly approve of projects designed to extend marine commerce by means of waterways from the Great Lakes into new territory.

Fifth—That as preparation for the joint promotion of common interests, it is desirable that a permanent board should be constituted for the decision of questions of an international character which may arise between the peoples and governments of the British Empire and the United States, and that this resolution be respectfully communicated to the governments and Parliament of Great Britain and the colonies of the British Empire and to the government of the United States.

LAKE FREIGHTS.

Lake freights have ruled fairly steady this week and iron ore, which is now the ruling factor, is firm at 85 cents, 70 cents and 50 cents from Ashland, Marquette and Escanaba, respectively.

During the week a few charters were placed at 90 cents on ore from the head of the lakes, and that figure was quoted in Duluth on Monday, but it is now steady at the former quotation.

The coal rate of 50 cents from Ohio ports to Lake Superior and Lake Michigan is now the going figure, and from Buffalo to Chicago the rate has improved, making it now 55 cents; to Duluth, 30 cents. Canal freights on wheat to New York went to 4 cents for a day or two, but, owing to the elevator combine at Buffalo, it dropped again to 3¾ cents.

Chicago grain freights weakened, owing to the raise in elevator charges, and wheat is now quoted at 1⅜ cents to Buffalo; corn to Port Huron, 1⅛ cents, and to Oswego, 2½ cents. Wheat from Duluth has been placed in small lots at 2¼ cents on line boats, but the quotation for cargoes is held at 2½ cents, with little business doing and nothing shipped during the week to Kingston.

STAGE OF WATER AT ST. MARY'S FALLS CANAL.

DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

Depth of water at the St. Mary's Falls Canal for the week ending Sept. 20, 1894:

Sept. 13	8	a.	m.,	14	feet	9	inches.	8	p. m.,	15 feet 0 inches.
" 14	"			14	"	8	"	"		14 " 9 "
" 15	"			14	"	9	"	"		14 " 9 "
" 16	"			14	"	8	"	"		15 " 0 "
" 17	"			15	"	1	"	"		14 " 11 "
" 18	"			14	"	8	"	"		14 " 8 "
" 19	"			14	"	7	"	"		14 " 9 "
" 20	"			14	"	8	"	"		

NOTICE TO MARINERS.

UNITED STATES OF AMERICA—NORTHERN LAKES AND RIVERS—MICHIGAN.

MARQUETTE BREAKWATER LIGHT-STATION.—Notice is hereby given that, on or about October 15, 1894, the Marquette breakwater light-house will be moved about 1,000 feet to the outer end of the recently constructed breakwater extension, Marquette Harbor, Lake Superior, Michigan.

During the time of removal the light in the tower will be extinguished and in its place a fixed red lantern light will be exhibited from a post at the outer or south end of the breakwater.

By order of the Light-House Board,

JAMES A. GREER,
Rear-Admiral, U. S. Navy, Chairman.

Office of the Light-House Board,
Washington, D. C., Sept. 18, 1894.

TO FACILITATE SHIPPING IN CLEVELAND.

A committee on navigation appointed by the Cleveland Chamber of Commerce, consisting of Messrs. C. E. Benham, H. G. Dalton, H. D. Goulder and A. L. Stone, rendered their report on Tuesday night. The document was somewhat lengthy, but it bristled with pertinent statements and showed that the committee had thoroughly studied and mastered their subject.

The committee referred to the reclaiming of the lake front, and the general improvement of the lakes as far as the "Soo," and then recapitulated and recommended the adoption of the following resolutions:

"WHEREAS, Careful investigation has proved that the opening of the breakwater at the west end will permit a current to flow from west to east of sufficient strentgh to remove the sewerage and offal that there collect to the detriment of the health of the city, at the same time removing danger of impure water from the same source at the crib of the city waterworks; and

"*Whereas*, Such current by unanimous consent of river men and civil engineers would in no way impede navigation nor affect the value or efficiency of government improvements, but on the other hand would prove a positive benefit to commerce by removing the bars which form at the mouth of the Cuyahoga River, and which at the present time await the use of government appropriations to be removed, therefore,

"*Resolved*, That the Cleveland Chamber of Commerce hereby requests favorable action by the war department, looking to the immediate removal of so much of the west end of the breakwater as may in the opinion of the government engineer in charge be necessary to secure the end sought.

"*Resolved*, By the Cleveland Chamber of Commerce, that, recognizing the necessity of increasing the dockage along the Cuyahoga, of saving a large acreage of valuable property from overflow, and rendering the Cuyahoga more easily accessible to vessels of large draft, we earnestly request such immediate action on the part of our city officials as will re-establish dock lines and remove all obstructions which may be found to encroach upon the channel; and

"*Resolved*, That we heartily favor the efforts of the department of public works to effect a straightening and widening of the river at certain bends to insure safe navigation, at the same time making possible the use of large tracts of ground for harbor and manufacturing purposes, and to this end pledge our support and co-operation."

"*Whereas*, The general government stands committed to establish and maintain a twenty-foot channel from the head of Lake Superior to the foot of Lake Erie; and

"*Whereas*, The fluctuations in lake level, especially on Lake Erie, due to wind and other causes, are so pronounced as at times would utterly defeat the use of such channel by vessels of eighteen-foot draft, and

"*Whereas*, Competent engineers have not hesitated to publish their belief that a submerged dam across Niagara River could at small cost increase the mean average depth of Lake Erie two feet or more; and

"*Whereas*, If successful, such improvement would be of incalculable value to the lake commerce, and decrease the large and constantly increasing harbor maintenance expense to the general government; therefore

"*Resolved*, That we favor the appointment of an international commissioner of engineers representing the United States and Dominion of Canada, which commission shall make careful investigation of the engineering and hydraulic problems presented, with a view to ascertaining the practicability of such proposed submerged dam, and at the same time inquire into such other matters as their deliberation may discover of interest and profit to the marine service of the Great Lakes."

ITEMS FROM THE LOG BOOK.

Capt. Philip O'Connor, the owner of several pleasure steamers, died at Milwaukee Monday aged 47 years.

Shipments for the past week from Duluth were: Wheat, 1,000,000 bushels; lumber, 2,000,000 feet; ore, 60,000 tons; flour, 200,000 barrels.

The steamer Republic, bound up with coal, struck at the head of the "Soo" canal, on Monday. Two of her compartments filled with water and she had to be lightered.

A. L. Wilcox, for two seasons chief engineer of the Mutual Line steamer Corona, has resigned to start a machine shop in Painesville, O. His place will be taken by Charles Rice.

The steel steamer Frontenac was surveyed at Erie, Pa., this week after her collision with the Mesaba at the foot of Sugar Island, "Soo" River. One frame was found to be broken, and the sheerstrake slightly started, but there was not enough damage to require dockage for repair.

The following are recent transfers of vessel property in the Lake Michigan district: Steamer J. F. Yettaw, sold by Louis Moore, of Chicago, to Bennett Haskell, of South Haven, consideration $4,500. Steam yacht Centennial, sold by Isaac R. Hines, of Muskegon, to John H. Lewis, of Muskegon, consideration $500.

A No. E "Providence" bar capstan has been ordered of the American Ship Windlass Co., Providence, R. I., for the ship building for Messrs. Briggs, Hawie & Co., of Glasgow, Scotland, at the yard of Archibald Macmillan & Co. This shows that the "Providence" capstan continues in favor in that section of the world.

An investigation will be made by the underwriters in regard to the reports that the corn cargo of the schooner Montgomery was all damaged on her arrival at Port Huron. Telegrams to that effect were received at Chicago and the shippers abandoned the cargo. When an underwriters agent was sent to Port Huron it was found that only 60 bushels of the cargo were wet.

About the only large carriers on the lakes not in commission are the steamer William Edwards and her consort, the Golden Age. They are owned by Valentine Fries, of Milan, O., and neither vessel has carried a cargo this season. They are now, however, being fitted out and will go into commission before the end of the present week. Capt. George S. White, recently mate on the Majestic, will sail the Edwards and Capt. D. H. Stalker, formerly in the Chas. Foster, will sail the Golden Age.

A dispatch was sent to various papers last week to the effect that Capt. Frank Danger, local inspector of the Port Huron district, had been at Bay City and notified all owners of pleasure boats that they must tie up until they were inspected. Investigation proved that the whole story was false, as Capt. Danger had not been at Bay City, and, moreover, all the boats at that port had been inspected. The captain knows that it is not his duty to see whether boats have been inspected, but to inspect them when the owners call upon him to do so. The matter of looking after infractions of the law belongs to the customs department. At the same time George E. Carroll, owner of the steam yacht Georgie C., writes from Bay City as follows: "Capt. Frank Danger did give orders to tie up my boat till she was inspected, and in obeyance to his said order she has not turned a wheel in eight weeks, and, further, all boats were not inspected here, and he knows it to be a fact."

CORRESPONDENCE.

☞We do not hold ourselves responsible in any way for the views or opinions expressed by our correspondents. It is our desire that all sides of any question affecting the interests or welfare of the lake marine should be fairly represented in THE MARINE RECORD.

LICENSED MARINE ENGINEERS.

CHICAGO, ILL., Sept. 17, 1894.

To the Editor of The Marine Record:

In your issue of August 30th Mr. F. H. Newhall finds a considerable amount of fault with my letter in behalf of the marine engineers of the lakes, and says it is against the rank and file of the order to mention strike or affiliate with strikers. I think my letter, if carefully perused, would not cause even the most autocratic steamboat owner on the lakes to feel hurt at reading it; it was the truth of our position as it now stands, and I feel it my duty as a member of the Marine Engineers' Association, to better their condition by word or deed, as I have done before, perhaps without any thanks, but when I hear of a member of this order calling me down, I must say there are all classes of people in our ranks. Mr. Newhall, it appears, is looking for trouble; he had better not pat our supervising inspector on the back just yet, expecting favors from him. Mr. Dumont only a few years ago, was one of the persons, with our late Secretary of the Treasury Foster, who said an engineer was not an officer in the case of Paris and New York. Strange it is he can turn so soon on his own judgment and say they are officers in case of a strike. I wish to know why an engineer on a steamer one year is not an officer and the next year he is? I want all who read this to understand that I am not in favor of strikes or boycotts, and hope that the owners will give back as freely as they took away when business warrants it; then we can see whether it is our license that protects us or the government protecting the owners of steamers. Mr. Newhall, I have always held the M. E. B. A. in the highest esteem, and will never do any worse than this to hurt them, and trust that you will hurt them in this way yourself some time. Bro. Dowd can ably speak for himself on this same item. Mr. Newhall, this ends my remarks on this subject.

JAS. A. MACAULY,
R. S., M. E. B. A., No. 4, Chicago.

MARITIME LAW.

JOHNSON ENGINEERING & FOUNDRY CO. v. THE PARADOX.

District Court, S. D. New York. June 13, 1894.

MARITIME CONTRACT—"BUILDING" OF VESSEL. A contract for the machinery of a vessel is not enforceable in admiralty, where such machinery was supplied for the completion of the construction of the vessel, and such vessel was not then completed for the purpose for which she was intended.

In Admiralty. Libel for materials and supplies.

Brown, District Judge.

The libelant furnished machinery to the yacht Paradox. If the supply of machinery is to be deemed a part of the "building" of the vessel, the contract, by the settled law of this country, is not a maritime contract, and cannot be enforced in this court. Though the state law gives a lien for building a vessel, the lien can be enforced in the state courts alone.

The Paradox was designed and built for the purpose of experimenting with a system of water-jet propulsion, patented by J. S. Morton. The libelant company, and its immediate predecessor, contracted to put in the propelling machinery. The original contract was made with the preceding company before the vessel was launched, and the libelant, the succeeding company, took up and finished what the former left undone. The evidence leaves no doubt that all the machinery was contracted for and supplied for the purpose of completing the construction of the vessel as an experimental yacht, in accordance with the original design. The libelant's officers understood this from the beginning. After the hull, constructed by other persons, was sufficiently advanced, it was launched, towed to the libelant's yard, and the machinery there put in by the libelant company, and by the preceding company, with changes of detail from time to time in the course of construction so as to make the machinery as efficient as possible.

In the case of The General Cass, 1 Brown, Adm. 334, Fed. Cas. No. 5,307, Longyear, J., says:

"The true criterion by which to determine whether any water craft, or vessel, is subject to admiralty jurisdiction, is the business or employment for which it is intended, or is susceptible of being used, or in which it is actually engaged, rather than its size, form, capacity or means of propulsion."

When the vessel is completed for the purpose intended, then the vessel is "built," and not till then, whether it be a steamer, a sailing vessel, a barge, a scow, or a mere float designed to support and transport a bath house (The Public Bath No. 13, 61 Fed. 692); and whatever is supplied to such a vessel for the purpose of making it what it was intended to be, and to enable it to enter upon the kind of business or navigation intended, is a part of the "building" of the vessel. This is the clear weight of authority. The case seems to me to be entirely within the decisions of Roach v. Chapman, 22 How. 129; In re Glenmont, 32 Fed. 703; The Pioneer, 30 Fed. 206; The Iosco, 1 Brown, Adm. 495, Fed. Cas. No. 7,060: Wilson v. Lawrence, 82 N. Y., 409; in which cases all the suggestsons and arguments of the libelants seem to me to be met and overruled.

I much regret the necessity of this conclusion in the present case, but it seems unavoidable upon the authorities, and I must, therefore, dismiss the libel, though without costs, as not based upon a maritime contract, and hence not within the jurisdiction of this court.

THE BRANDEN PUMP VALVE.

(ILLUSTRATED.)

The Branden Pump Valve is something entirely new in its line. The merits of these valves are obvious to the average mechanical mind that they have gained in public favor with great rapidity and are now in constant and growing demand wherever pumps are employed. They have the appearance of ordinary rubber valves, but through their central plane runs a wire-coil spring, as shown in the cut. This not only serves as a firm support to keep the central opening round, but strengthens the whole body of the valve, so that they are able to withstand more than double the pressure of ordinary rubber valves; at the same time, owing to the peculiar nature of the coil spring insertion, they are flexible and elastic throughout. This permits them to bend over temporary obstructions and form a water-tight seat, by which the efficiency of the pump is maintained, and thereby a considerable saving in fuel effected; their elastic quality also prevents them from "dishing," or bending up on the edge. As the spring preserves the valves in their normal shape, they can be turned over and used until both sides are worn out. These qualities render them much more durable than ordinary rubber valves, and, this fact taken into consideration, their price will be found considerably lower.

These valves are made in all the regular sizes, used in steam, and power pumps of standard makes. Special sizes, to any dimensions, can readily be made to order.

The Branden valve is controlled exclusively by the Crosby Steam Gage & Valve Co., of Boston, Mass., and may be ordered from there or from any of its branches in New York, Chicago, or London, England.

HIS OUGHT-TO BIOGRAPHY.

"Some day," said the morose man, "I am going to write a book. I am going to make a record of my wasted opportunities; a compilation of the things I should have done and didn't do."

"What will its title be?"

"H'm'm. I hadn't thought of that. I guess I'll call it my ought-to biography."—Washington *Star*.

ONE hundred and fifteen tons of Manila, which was found to be below the standard, has been rejected by the officials of the Boston navy yard, and the entire shipment was returned to the New York firm from whom it was purchased. It took a train of nine freight cars to transport the shipment.

NOTES.

SECRETARY CARLISLE has issued orders, in accordance with the law passed by the last congress, that after October next the head tax on immigrants shall be raised from fifty cents per head to $1, and that the money thus collected shall be covered into the treasury, instead of being set aside to be expended under the control of the bureau of immigration.

RANDOLPH & CLOWES, of Waterbury, Conn., manufacturers of seamless drawn brass and copper tubing, shells, and sheet copper and brass, have published a neat brochure showing their copper range boilers which was granted a first award and medal at the World's Columbian Exposition. For the use of passenger steamers as well as for houses there is nothing in the market to compare in point of finish and durability with the Brown's patent seamless drawn copper range boilers.

THREE miles of galleries have been hewn out of solid rock at Gibraltar, and here are mounted the guns of the strongest fortress in the world. During the last seige of Gibraltar forty-six line of battle ships, three hundred gun and mortar boats, and a great fleet of armored floating batteries daily hurled thousands of tons of iron against its defensive works without avail; and finally the siege was raised. In the current number of *Harper's Young People* these and many other things are told by Capt. Howard Patterson.

THE rays of the sun carried a message from the top of the Equitable building, Denver, Col., to the summit of Pike's peak, 66 miles in an air line. It was a remarkable feat in heliographic signaling, but its success was fully up to expectations. Successful experiments were continued for several days and then the signal men started for their attempt to flash a message from Mt. Uncompahgre to Mt. Ellen, 183 miles. The flashes of the mirrors on Pike's peak could be distinctly seen by the naked eye during the transmission of the message.

MAJ. C. B. SEARS, United States engineer, in charge of the Lake Superior river and harbor works, is arranging four engineering parties which will be sent out at once to survey routes for a ship canal between Lake Superior and the Mississippi River. A number of experienced woodsmen will accompany the parties and it is the intention to get to work while the rivers are at the lowest stage. Six possible routes are in Wisconsin, and a less number in Minnesota. It is not expected the engineering work will be completed before next year.

IT is proposed to establish a direct line of steamships between Antwerp, France and Canada. Two representatives of the Societe Columba Belge de Navigation waited on Sir Adolph Caron in London the other day and inquired if the Dominion Government would grant a subsidy to such a line if it was established. Sir Adolph Caron replied that nothing could be done in the matter until the Dominion Parliament met, but said that then the government would consider the suggestion. A dispatch from Montreal states that the general opinion there is that such a subsidy will be granted and the proposed line of steamships be established.

IMPORTANT results to Canada have followed a survey of the boundary between Canadian and Alaskan territory. One of the most notable is the discovery that Mount St. Elias, so long regarded as the giant mountain of the continent, is in Canadian and not in United States territory. The height of the mountain was found to be 18,023 feet, considerably higher than the estimate given by the numerous exploring parties of the geological survey. A. M. Burgess, deputy minister of the interior, says the results of the season's survey would, he believed, establish the justice of Canada's claim to still more important points in the disputed territory.

THE Peary relief expedition has returned after being reported by the Danish vessel Tjalfe, commanded by Capt. Brick, who arrived from Greenland, and reported that he fell in with the members of the expedition at Godhaven on July 17. All were well. Capt. Brick states that the winter in the Arctic regions has been extraordinarily long and he thinks that the chances of finding alive Bjorling and Kalstennius, the Swedish explorers who started for the north in 1892, and the search for whom was one of the objects of the Peary relief expedition, are very remote. Peary and two of his crew were left at Bowdoin Bay for another year when they expect to complete their work.

ORE shipments for last week from Ashland, Wis., were 71,056 tons and the total for the season is 1,276,342 tons.

WILLIAM L. BROWN, President.
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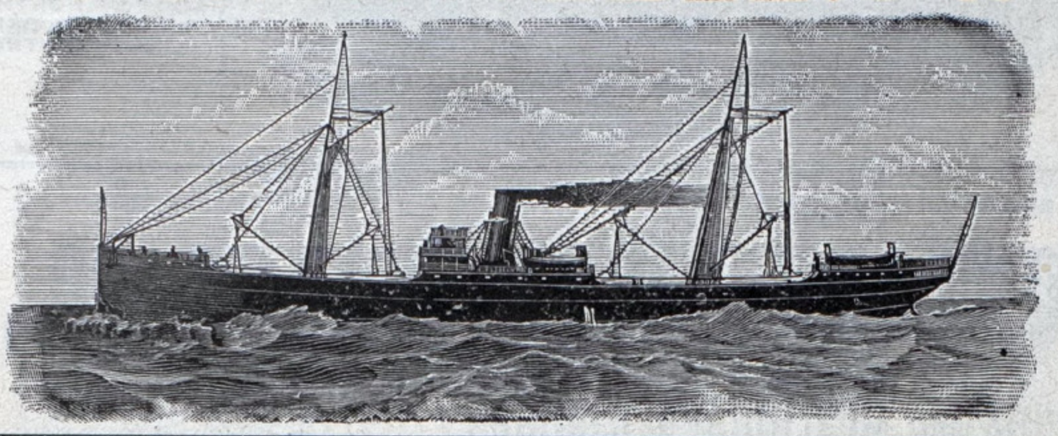

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Would be pleased to meet or correspond with any one whose present Banking relations are not entirely satisfactory, or who, for any reason, propose to open a new account.

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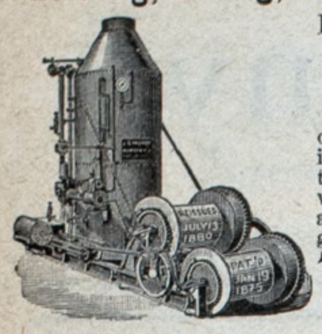

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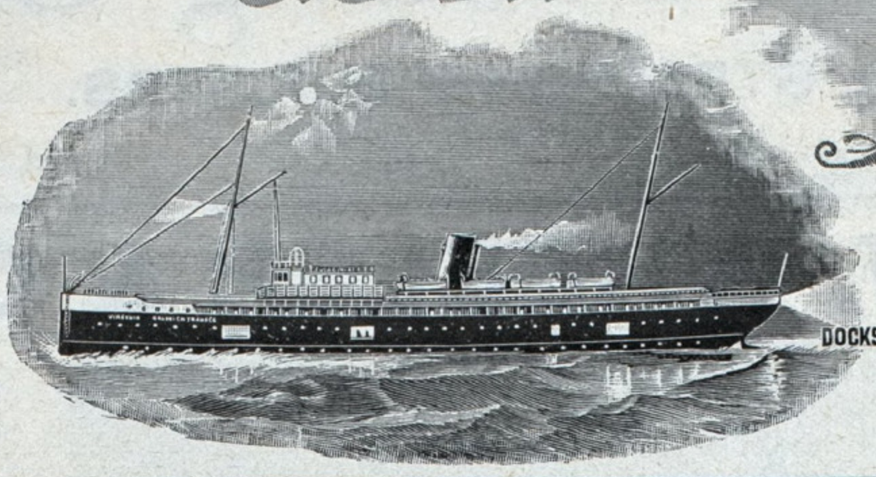

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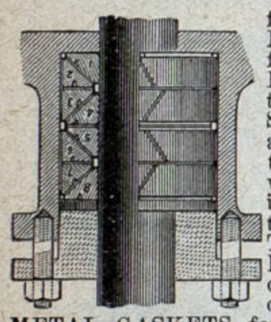

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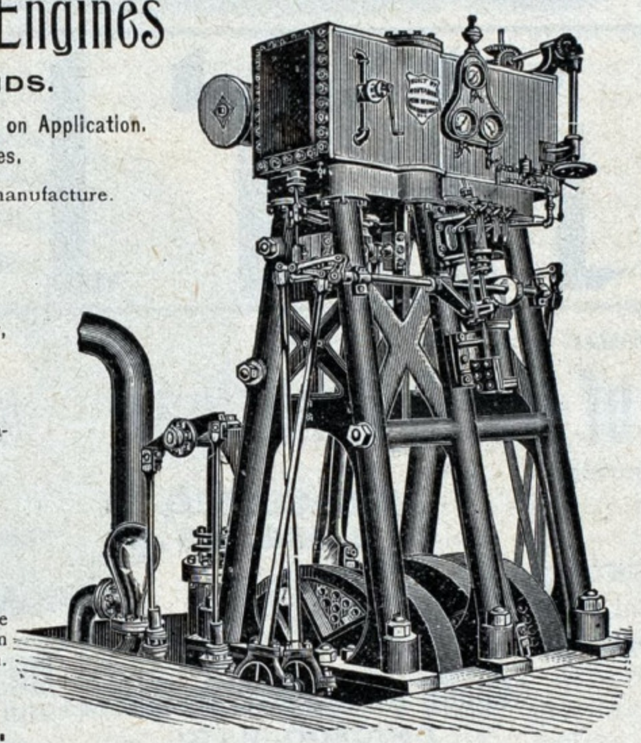

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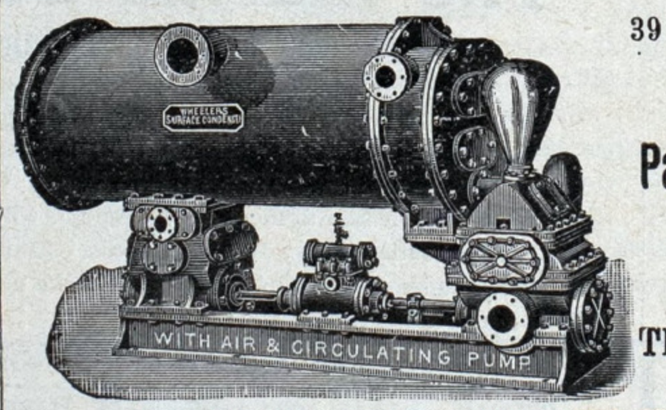

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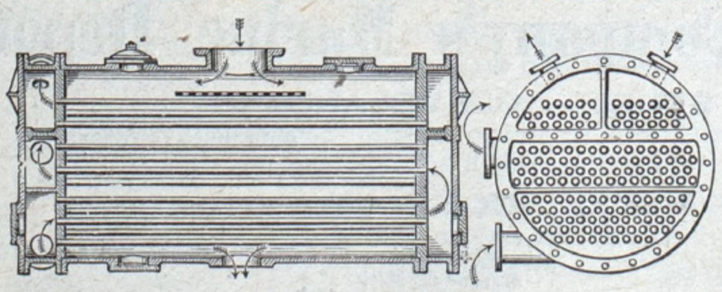

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U. S. ENGINEER OFFICE, 34 West Congress St., Detroit, Mich., September 12, 1894. Sealed proposals for furnishing all labor, materials and appliances, and removing Shoals of Boulders, both bedded and loose, and other material, from vicinity of Ballards Reef in Detroit River, will be received here until 2 p. m., standard time, October 12, 1894, and then publicly opened. All information furnished on application. O. M. POE, Col. Corps of Engineers. 37–40

U. S. ENGINEER OFFICE, 2258 Wabash Ave., Chicago, Ill., September 5th, 1894. Sealed proposals in triplicate will be received here up to noon, central time, September 25th, 1894, and then publicly opened, for the following river and harbor work. Chicago Harbor: Exterior Breakwater, rebuilding and repair of superstructure. Calumet Harbor: Rebuilding superstructure of piers. Calumet River: Dredging above and below the Forks. All information furnished on application. W. L. MARSHALL, Capt. Engineers. 36–38

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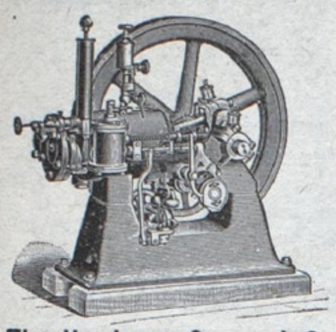

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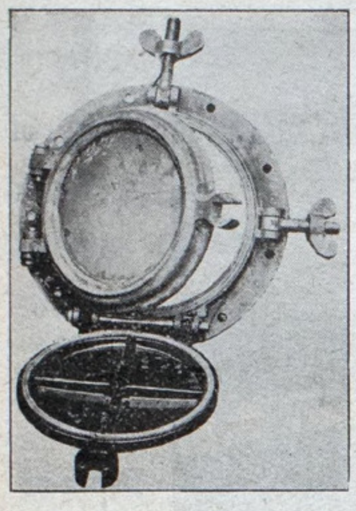

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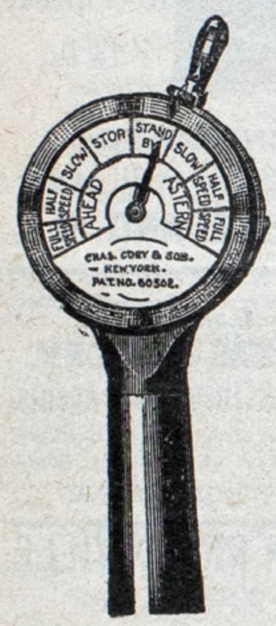

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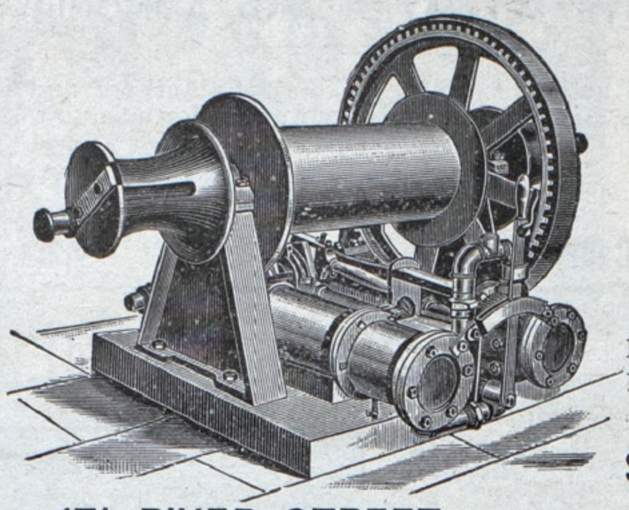

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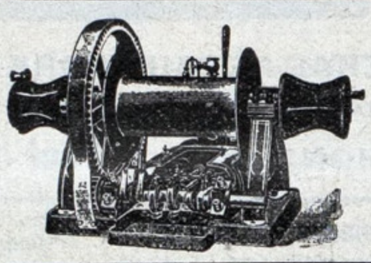

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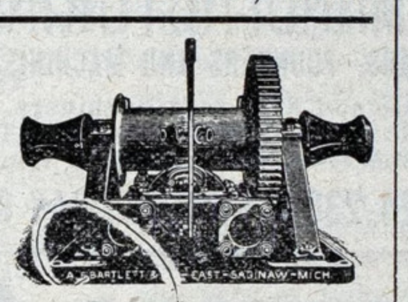

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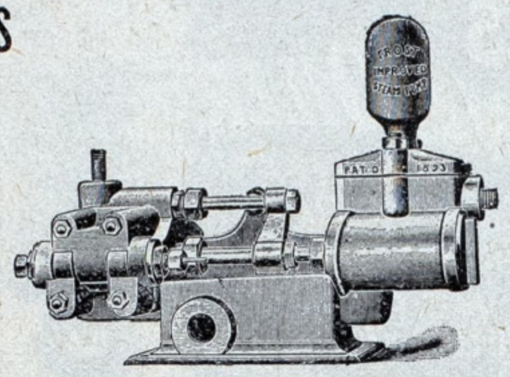

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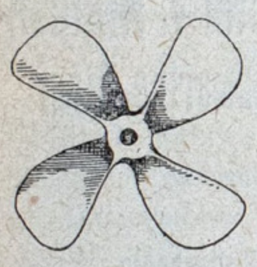

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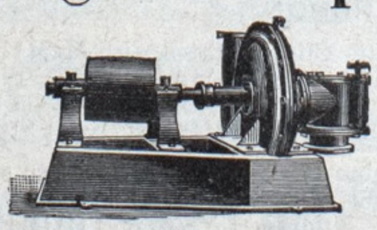

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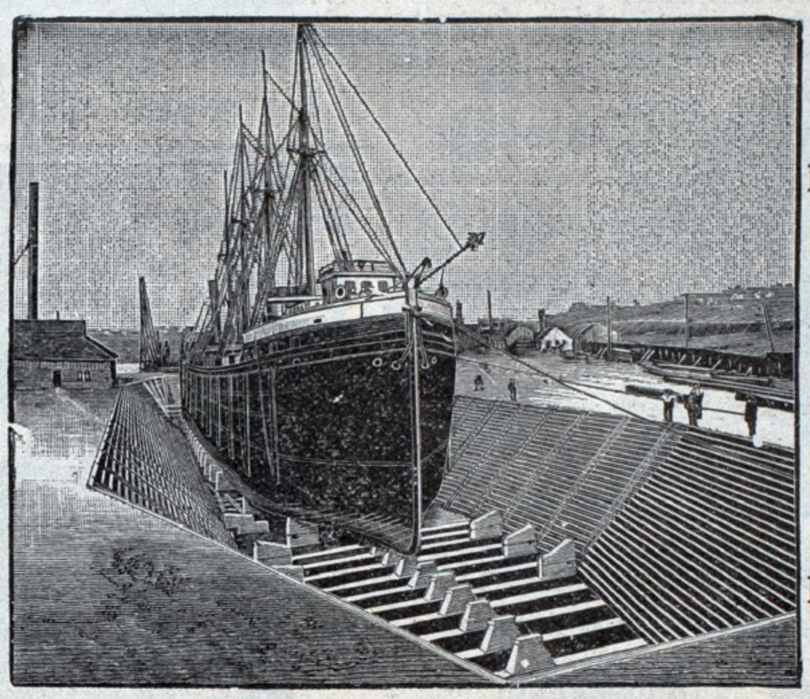

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